

SAMPLE QUESTION PAPER
SUB: BIOLOGY (044)
CLASS – XII

TIME: 02 HOURS

TOTAL MARKS: 35

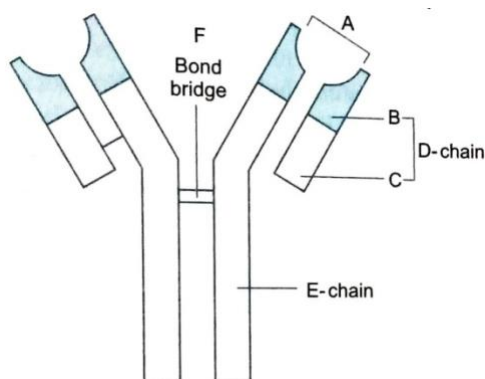
General Instruction:

1. All Questions are compulsory.
2. The Question paper has 3 (three) sections: Section A, Section B, Section C and 13 (thirteen) questions.
3. Section A has 6 questions of 2 marks each; Section B has 6 questions of 3 marks each; and Section C has a case-based question of 5 (five) marks.
4. There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
5. Wherever necessary, neat and properly labeled diagrams should be drawn.

Section A

2 X 6 = 12

1. Explain the role of the following in providing defense against infection in human body.
a) Histamines b) Interferon's
2. Give reason -
a) Bottled fruit juices bought from the market are clearer as compared to those made at home.
b) Large holes are found in "Swiss Cheese".
3. Identify A, D, E and F in the diagram of an antibody molecule given below.



4. When you go for a track/trip to any high altitude places, you are advice to take it easy and rest for the first two days. Comment, give reasons.

OR

Why a person with cuts and bruises following an accident is administered tetanus antitoxin? Give reasons.

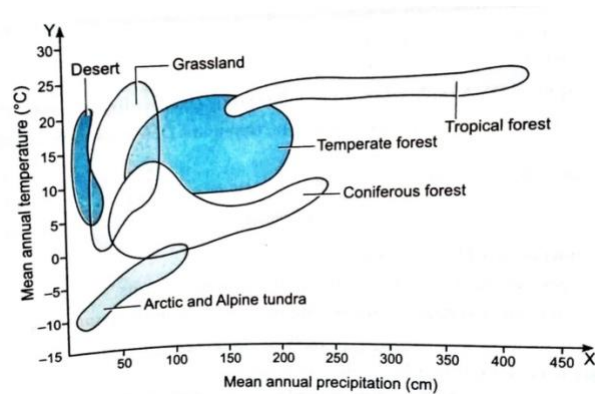
5. Under polio prevention programme. Infants in India were given polio vaccines on a large scale at regular intervals to eradicate polio from the country.
- A) What is vaccine? How does it impart immunity to the child against the disease?
6. Define the term age pyramid. Label the three tiers 1, 2, 3 given in the below age pyramid.



Section B

3 X 6 = 18

7. Write the scientific names of the causal organisms of elephantiasis, ringworm and typhoid in humans. Mention the body parts affected by them.
8. State the functions of the following in the cloning vector pB322.
- a) Ori b) rop and c) Hind III sites.
9. Observe the diagram given below and answer the following;



- a) Which biome shows maximum range of annual precipitation?
- b) Which biome shows maximum range of annual temperature?
- c) Give range of mean annual temperature by coniferous forest.
10. What is the significant of the slope of regression in a species – area relationship?
11. Unless the vector and source DNA are cut, fragments separated and joint, the desired recombinant vector molecule can't be created.

- a) How are the desirable DNA sequence cut?
 - b) Draw the vector DNA segment and foreign DNA segments after the action of *EcoRI* and label the sticky ends produced.
12. Prepare a note to be circulated amongst the school mates about the sources and dangers of any 3 (three) drugs.

Section C

5 X 1 = 5

13. Write notes on the 'rivet popper hypotheses' by Paul Ehrlich.

OR

Raghav, a student of agricultural science has read an article in a magazine about transgenic organism, which explains the advantages of transgenic organisms to human beings in the field of medicine, industry, etc and various controversies related transgenic organisms.

- a) What kind of ethical issues are connected to the production of transgenic animals?
- b) Explain the controversies related to transgenic organisms with examples.